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	MENORANDUM FOR: D	irector. Strategi	c Technology,	ARPA	
	ATTENTION :		The state of the s	- 184 A . 2	
	SUBJECT : E	valuation of Metho of Soviet SS-9 S	od Used to Es	timate the Orientation	n
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22 September 1969

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MEMORANDUM FOR:

Executive Director, National

Photographic Intelligence Center

SUBJECT

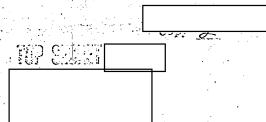
Evaluation of Method Used to Estimate the Orientation of

Soviet SS-9 Silos

1. The results of studies on SS-9 launch site orientations undertaken by

on behalf of the Advanced Research Projects Agency (ARPA) of the DDR&E may provide insights into Soviet strategic targeting concepts and plans. These results are based on a complex methodology involving the use of satellite photography to derive the orientation of SS-9 silo doors. Together with intelligence on site orientations and launch azimuths used at the Soviet ICBM test range, this measurement is believed to provide an indication of the preferred launch azimuth, and thus a means of limiting the number of possible targets to those which lie along the resultant theoretical flight path of the missile.

- 2. While promising, the method is highly dependent on the accuracy of the angular measurement of the silo door. I am informed that an error of one degree in this measurement could mean a divergence of 60 miles or more from the intended Soviet target at ICBM range. The measurements for the study were made by the Aeronautical Chart and Information Center (ACIC) in St. Louis, Mo.
- 3. I would like to be in a position to judge the overall validity of the study, but to do so I need an evaluation by the National Photographic Intelligence Center of the method used by ACIC to estimate the site orientations and an objective assessment of the significance that can be attached to the results. I am requesting, therefore, that



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·	you undertake this evaluation. For guidance, I	
	have attached a list of specific questions I would like to have considered.	
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AEV4	have consulted with Director of ARPA's Strategic Technology Office and who monitors the project.	25>
25X 1 25X1	expressed their desire to cooperate with us and their willingness to make both per-	25>
	sonnel and materials available to NPIC in carrying out the evaluation of the study results.	-
	5. I would like to move ahead on this as soon as possible and would appreciate your giving this request your early attention.	
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	Attachment: Guidance in Evaluating the ACIC Azimuth Study,	,
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CLASS	12/22 g CIA-RDP78B05703A000	800020003-3 (1)
REQUEST FOR NPIC SUPPORT	READ INSTRUCTIONS ON REVE	RSE BEFORE COMPLETING FORM
TESTING AGENCY	3. DATE PREPARED	4. DATE REQUIRED
Dir/OSR/CIA,	25 September 1969	1 November 1969
CE	6. PHONE NO.	7. REQUESTER'S CONTROL NO.
TSSG/RED/RSB		NPIC/TSSG/RED/RSB-16/69 25X
JESTING OFFICER	9. SUGGESTED JOB TITLE Evaluation of Azimuths	of SS-9 Silos
	Evaluation of Azimuths 11. COUNTRY CODE	07 00 2 02200
₹0.	III, COURTET CODE	
CRIPTION OF REQUIREMENT AND BACKGROUND IN	FORMATION	
The attached memorandum provides be site orientations undertaken by Advanced Research Projects Agency (ARPA made by the Aeronautical Chart and Info NPIC is requested to provide an evestimate site orientations and an object	The measurements for treation Center (ACIC). aluation of the method use	ne study were 25%
can be attached to the results. The at questions to be considered.	cachment includes a list c	of Sheering
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ECIFIC REQUIREMENT		
ECIFIC REQUIREMENT		
1. Evaluate math model and derivations	•	
2. Error analysis of measurements and	of solutions.	
3. Validation of ACIC error analysis.		
4. Prepare a report of total evaluation	n to requesting Agency.	
		at III
The support of Ch/APSD/TSSG will be requapproximately 90 man-hours will be requ	paired. It is expected the ired to complete this tas	k.
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